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April 8, 2014

Via Courier Service
U.S. Army Corps of Engineers – Seattle District
Attn: Josh Jackson, CENWS-PM-CP
P. O. Box 3755
Seattle, WA 98124-3755

Re: Grays Harbor, Washington Navigation Improvement Project
Draft Limited Reevaluation Report and Supplemental Environmental Impact Statement

Dear Mr. Jackson:

On behalf of the Pacific Coast Shellfish Growers Association ("PCSGA"), thank you for this opportunity to comment on the U.S. Army Corps of Engineers' ("Corps'") January 2014 Draft Limited Reevaluation Report and Supplemental Environmental Statement ("2014 Draft SEIS") related to the proposal to deepen the existing ship channel in Grays Harbor, Washington from 36 feet to 38 feet mean lower low water ("Proposal").

PCSGA represents over 100 shellfish growers in Alaska, Washington, Oregon, California, and Hawaii. Members of PCSGA grow a wide variety of healthful, sustainable shellfish including oysters, clams, mussels, scallops, and geoduck. Grays Harbor provides exceptional habitat for commercial shellfish beds due to its extensive tidelands and well-protected mudflats. Together with Willapa Bay, Grays Harbor produces approximately 25 percent of all oysters in the United States. Therefore, the health and security of shellfish beds in Grays Harbor is critically important to not only the local community, but the entire nation.

As discussed in detail below, PCSGA is extremely concerned by the Corps' failure to adequately assess the full environmental and economic impacts that will result from the proposed deepening of the navigation channel. Shellfish growers have suffered extensive shellfish bed loss in the past 25 years due to channel dredging. This bed loss has reduced habitat for a broad variety of marine species and has caused severe economic damage to commercial shellfish growers. The Corps' analysis fails to even recognize these impacts, let alone propose appropriate mitigation measures to address them.

A. The Proposal Jeopardizes Shellfish Aquaculture in Grays Harbor, a Critical and Long-Standing Contributor to the Local Economy and Environment

1. Shellfish Aquaculture Plays a Key Role in the Local Economy and Environmental Health

Grays Harbor has played a major role in Washington's shellfish industry for over a century. Along with Willapa Bay, Grays Harbor was one of the first areas where settlers grew shellfish commercially. Some of Washington's earliest legislation aimed to promote the shellfish industry, permitting individuals to purchase tidelands in order to cultivate oysters, clams, and other shellfish. One hundred years later the Legislature confirmed the key role that shellfish play in Washington's economy, declaring "shellfish farming provides a consistent source of quality food, offers opportunities of new jobs, increases farm income stability, and improves balance of trade."[1]

More recently, Washington State emphasized the importance of shellfish and shellfish aquaculture through the Washington Shellfish Initiative, launched by Governor Gregoire in December 2011.[2] The Washington Shellfish Initiative specifically recognizes "the extraordinary value of shellfish resources on the coast. As envisioned, the initiative will protect and enhance a resource that is important for jobs, industry, citizens, and tribes." The initiative also recognizes that shellfish "help filter and improve the quality of our marine waters thereby being part of the solution to restore and preserve the health of endangered waters" and articulates several detailed strategies to preserve and enhance shellfish resources.

Shellfish and shellfish aquaculture also provide significant ecosystem goods and services that benefit humans both directly and indirectly.[3] Shellfish beds regulate water quality by filtering nitrogen and bacteria from the water column. They support nutrient cycling through the aquatic ecosystem to discourage buildup of dissolved oxygen and phytoplankton blooms. They also provide numerous habitat benefits. For example, intertidal oyster beds act as natural breakwaters against erosion, thereby protecting sensitive salt marshes and eelgrass against wind- and boat-generated waves. Shellfish beds also offer excellent habitat for other commercially and recreationally important species such as Dungeness crab.[4] And, finally, shellfish beds offer important cultural services to Washington's Tribal communities and coastal-resource dependent communities.

Grays Harbor shellfish growers currently produce oysters and clams for local, national, and global consumption, providing a healthful source of protein as well as a stable source of income for communities throughout the County. Grays Harbor has over 2,200 acres of tidelands under cultivation, which generate approximately $12 million in net revenue annually. Shellfish growers directly and indirectly generate over 200 jobs in Grays Harbor County, accounting for $6 million of labor income to the County.[5] Additionally, because shellfish farms represent a least-cost solution to expensive tertiary treatment, some analysts

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[1] Laws of 2002, c 123, §1.
[2] Available at http://pcsga.org/wprs/wp-content/uploads/2013/04/Washington-Shellfish-Initiative.pdf
[3] *See generally* Northern Economics, Inc., *Assessment of Benefits and Costs Associated with Shellfish Production and Restoration in Puget Sound*, 6-9 (2010), [hereinafter "2010 Northern Economics Benefit and Cost Analysis"], available at: http://www.pacshell.org/pdf/AssessmentBenefitsCosts.pdf.
[4] *See* 2010 Northern Economics Benefit and Cost Analysis, at 6-9.
[5] *See* Northern Economics, Inc., *The Economic Impact of Shellfish Aquaculture in Washington, Oregon, and California*, 7-19 (2013) [hereinafter "2013 Northern Economics Shellfish Aquaculture Economic Analysis"], available at: http://www.pacshell.org/pdf/Economic_Impact_of_Shellfish_Aquaculture_2013.pdf.

calculated the cost of providing these service via other means to estimate the ecosystem value provided by oysters. Using this method, the water quality benefit from shellfish can exceed $1 million annually in individual locations throughout the state, depending on the quantity of shellfish farmed and the level of treatment required.[6]

2. The Corps' Numerous Navigational Improvement Projects Constitute the Most Significant Driver to Geomorphic Changes in Grays Harbor

The Corps' efforts to manage navigation in Grays Harbor span more than a century. In the early 1900s the Corps installed the North and South Jetties in order to improve the channel through the inlet throat into Grays Harbor. Various other dredge projects helped maintain a 30-foot deep channel below the mean lower low water level ("MLLW"). The Corps' Deep Dredge project, completed in 1991, was intended to further improve navigation in the harbor. The current Proposal would further deepen the navigational channel from the mouth of the inlet through the mouth of the Chehalis River, approximately 14.5 miles.

Since the Corps first proposed the Deep Dredge project in 1982, it has conducted one study on sediment dynamics by Pacific International Engineering, PLLC, entitled *Dynamics of Whitcomb Flats, Grays Harbor* ("2003 Sediment Transport Study"). The study concluded that the Corps' past activities in Grays Harbor – including the installation of the North and South Jetties in the early 20th century and the 1990 dredge project – likely contributed to changing geomorphology in the Whitcomb Flats area of Grays Harbor.[7] In particular, the report states, "the most significant recent geomorphic changes in the inlet were caused by construction of the jetties [at the turn of the 20th century] and the major rehabilitation to the jetties in the 1930s and 1940s."[8]

Despite this conclusion, the Corps never adequately analyzed, much less addressed, the sediment transport impacts that the dredge project has had and will continue to have on shellfish growers in Whitcomb Flats. Neither the 1982 Final EIS ("1982 FEIS") nor the 1989 EIS Supplement cited studies analyzing shellfish populations or sediment transport dynamics within Grays Harbor. In its 2014 Draft SEIS the Corps referenced the 2003 Sediment Transport Study to conclude that the Corps' proposed action would not disturb Whitcomb Flats.

In short, the Corps proposes to move forward with another project related to its century-long navigational improvements in Grays Harbor without ever having adequately analyzed the impacts its projects have on sediment transport dynamics as they pertain to siltation, sand spit migration, and the resulting loss of viable shellfish beds. Moving forward without such an analysis violates the Corps' mandate to adequately assess past, present, and foreseeable adverse impacts to public and private resources in Grays Harbor.

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[6] *See* 2010 Northern Economics Benefit and Cost Analysis, at 7 (Table 2). For example, the Shelton WWTP on Oakland Bay would likely benefit between $77,000 and $884,400 if it were to use shellfish as the least-cost replacement option versus making a capital improvement to the WWTP. Similarly, if the combined sewer utilities of Lacey, Olympia, Tumwater and Thurston County expanded shellfish production in Budd Inlet to a level equivalent to Oakland Bay it could see a benefit between $650,900 and $7,465,300 over the upgrade's total lifespan.

[7] 2003 Sediment Transport Study, at 53-5.

[8] *Id.*, at 53.

3. Regulatory Standards Governing Corps' Actions

i. National Environmental Policy Act

The National Environmental Policy Act ("NEPA") requires an agency to develop an Environmental Impact Statement ("EIS") for any federal action that will significantly affect the human environment.[9] In turn, Council on Environmental Quality ("CEQ") regulations interpreting NEPA require a supplemental EIS whenever (i) the agency makes substantial changes in the proposed action that are relevant to environmental concerns, or (ii) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.[10]

A proper EIS or SEIS requires a discussion of mitigation measures for any adverse environmental impacts that cannot be avoided.[11] Actions must be "discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated,"[12] and courts routinely hold EISs inadequate for failure to adequately discuss and identify mitigation measures.[13]

The evidence demonstrates that the Corps has failed to adequately evaluate the effects of its proposed action on the environment, including a fundamental failure to address the effects of the Corps' own past activities. In fact, the Corps has misled the public by framing pre-1990 Corps projects impacts as baseline information rather than as part of the long-term effects of the Corps' overall, interrelated navigation project.

ii. Federal Water Pollution Control Act

Under Section 404 of the Federal Water Pollution Control Act ("CWA"), the Corps issues permits for discharges of fill or dredged materials that may have impacts on waters of the United States.[14] As the Corps concedes in its 2014 Draft SEIS, the agency "does substantively comply with the CWA through a Section 404(b)(1) evaluation process."[15]

Section 404 regulations state that the Corps will evaluate every dredge permit application based on the project's probable impacts on the public interest.[16] Thus, for each proposed Section 404 permit, including the agency's own activities that fall under Section 404, the Corps considers and weighs the following criteria:

> (i) The relative extent of the public and private need for the proposed structure or work;

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[9] 42 U.S.C.A. §4332(C).
[10] 40 C.F.R. §1502.9(c).
[11] 42 U.S.C.A. §4332(C)(ii).
[12] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352, 109 S.Ct. 1835 (1989).
[13] *See, e.g., Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372 (9th Cir. 1998) (description of mitigation measures lacked sufficient detail); *Envt'l Def. Fund, Inc. v. Froehlke*, 473 F.2d 346 (8th Cir. 1972) (failure to include land acquisition as mitigation measure for impact of project on migratory birds); *Wilderness Soc. v. Bosworth*, 118 F.Supp.2d 1082 (D. Mont 2000) (best management practices not shown as sufficient to remedy landslides). *See also* DANIEL MANDELKER, ET AL.., NEPA LAW AND LITIGATION, §10.44 (2013 ed.).
[14] *See* 33 U.S.C.A. §1344(a).
[15] U.S. Army Corps of Engineers, *Grays Harbor, Washington Navigation Improvement Project General Investigation Feasibility Study Draft Limited Reevaluation Report Appendix C: Draft Supplemental Environmental Impact Statement*, 3.3-8 (2014) [hereinafter "2014 Draft SEIS"].
[16] 33 C.F.R. §320.4(a)(1).

(ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and

(iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.[17]

Under these criteria, the Corps' evaluation of impacts must account for the detrimental impacts of the dredging on oyster beds in Whitcomb Flats and elsewhere in Grays Harbor. The evidence below shows that the economic and environmental damage to public and private oyster beds that has already occurred and will likely become more extensive upon implementation of this Proposal weighs against moving forward with the proposal unless and until appropriate mitigation measures are implemented.

B. The Corps Has Ignored its Impact on Sediment Transport in Grays Harbor

1. The Corps Did Not Adequately Address Sediment Transport in 1982 FEIS or 1989 EIS Supplement

The 1982 FEIS and 1989 EIS Supplement concluded that the Corps' proposal to deepen the channel would likely have no adverse impact to shellfish beds.[18] The Corps did not undertake a study to determine how its plan to dredge a 23.5 mile-long channel from the open ocean through a major harbor at depths between 6 and 16 feet deeper than the then-existing depth would impact wave energy or affect sediment deposits in Grays Harbor. In fact, the Corps admitted "information on the movement of silt material is less well known" but that it planned on depositing clean silts near the South Jetty to minimize the risk of sediment remaining in the estuary.[19]

The 1989 EIS Supplement, on which the Corps relied for its 1990 deepening project, did not develop the Corps' theory any further. The Corps cited no evidence demonstrating erosive processes in Grays Harbor and admitted "the precise cause [of the erosion] has not been determined."[20] The Corps determined it should continue to observe Whitcomb Flats for any erosion, but stated that any erosive effects "appear[ed] to be" due to naturally occurring swells, wind-generated waves, and currents.[21] Despite lacking adequate information the Corps indicated the project would not result in adverse environmental impacts to shellfish beds around Whitcomb Flats, only noting "any siltation effects to oyster grounds during construction would be minimal and of short duration."[22]

2. 2003 Sediment Transport Study of Whitcomb Flats Confirms the Corps' Past Actions Contribute to Erosion and Migration of Whitcomb Flats

Rapid erosion occurred at Whitcomb Flats after the Corps completed its Deep Dredge project in 1991. The Port of Grays Harbor commissioned the 2003 Sediment Transport Study in an

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[17] 33 C.F.R. §320.4(a)(2) (*emphasis* added).
[18] U.S. Army Corps of Engineers, *Final Environmental Impact Statement Supplement 1, Grays Harbor Navigation Improvement Project*, p. 4-20 (1989) [hereinafter "1989 EIS Supplement"]. The 1982 Final EIS does not mention any impacts to shellfish other than crabs; it can be assumed that the Corps failed to study whether the project would have any impacts to shellfish beds at that stage.
[19] *Id.*, at 50.
[20] 1989 EIS Supplement, at 4-20.
[21] *Id.*, at 4-20.
[22] 1989 EIS Supplement, at 4-20.

effort to provide a baseline on which to assess potential impacts to Whitcomb Flats due to ongoing maintenance of the Corps' navigation channel. While the study concluded that the 1990 Deep Dredge project alone could not account for the observed changes to Whitcomb Flats, it did state that the Corps' dredging projects contributed to the geomorphological changes impacting Whitcomb Flats. The study specifically found the construction of the North and South Jetties had significantly altered the sediment cycling in Grays Harbor, resulting in scour at the entrance to the harbor, offshore transport of some sediment, and reduced sedimentation. These processes restricted the growth and development of the original shoal complex that previously existed at Whitcomb Flat and Sand Island.[23]

With respect to increased wave activity, the study stated:

> Scour, dredging, and southward migration of the channel [due to increased sedimentation on Damon Point from the Corps' hydraulic changes in the main channel] have all contributed to the increased [sic] in depth in the inlet throat, particularly toward the south side of the inlet. The increase in depth allows penetration of larger ocean waves to the south side of the inlet and has also lead [sic] to focusing of ocean wave energy on the south side of the inlet throat.[24]

The 2003 Sediment Transport Study also listed the widening and deepening project in the 1990s, among other things, as a main contributor to increased wave energy. Thus, the report concludes, "a much larger increase in the height of the extreme storm waves reaching Whitcomb Flat has occurred because of the increase in depth in the inlet throat and the shifting of the deepest part of the channel to the south over the last two to three decades."[25]

The study also analyzed the eastward migration of Whitcomb Flats, a phenomenon related to increased wave activity that has buried numerous oyster beds while flooding others. The 2003 Sediment Transport Study concluded that two processes influence changes at Whitcomb Flats. First, the westward growth of spits off the main north-south axis of Whitcomb Flats is strongly related to ebb tides carrying sediment toward the ocean. Second, the eastward migration "is most likely associated with sediment transport induced by waves and wave overtopping processes" and that the migration had "increased significantly" in the decade before 2003.[26]

Based on the evidence presented in the 2003 Sediment Transport Study, maintenance and the widening and deepening of the South Reach permitted larger waves to reach Whitcomb Flats; those more intense storm waves carried increasing quantities of sediment eastward across Whitcomb Flats, forcing an eastward migration of the flats that correlated to the decade immediately after the Corps completed the 1990 Deep Dredge project.

In its 2014 Draft SEIS the Corps notes that the North and South Jetties are part of a previous Corps project, so they form a baseline rather than a project subject to an impact analysis. However, the Corps must adequately discuss and analyze a past project that is interrelated to and combined with the Proposal and imposes an adverse impact on the environment. Its failure to do so makes the Draft 2014 SEIS inadequate.

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[23] 2003 Sediment Transport Study, at 53-4.
[24] *Id.*, at 55.
[25] *Id.*
[26] *Id.*, at 55.

3. The Corps has Failed to Present Evidence in its 2014 Draft SEIS that Whitcomb Flats' Migration Rate Has Quintupled Since 1990 and that Scour and Dredging Have Contributed to Increased Wave Height at Whitcomb Flats

The 2003 Sediment Transport Study's conclusion indicates that the Corps' projects have altered sediment transport patterns throughout the harbor. The Corps' 2014 Draft SEIS, however, fails to note past impacts on sediment transport in the harbor. For example, the Corps stated that the North and South Jetties form part of the pre-existing conditions not subject to environmental review. Therefore, the Corps considered any resultant geomorphological changes, including the eastward migration of Whitcomb Flats, as part of the baseline condition.[27]

The 2014 Draft SEIS notes "from 1967 to 2001, Whitcomb Flats has been migrating east at about 100 feet per year, on average," and that the primary drivers for the migration are ocean waves and tidal currents.[28] It cites the 2003 Sediment Transport Study for support. In fact, the 2003 Sediment Transport Study concluded that eastward migration increased dramatically between 1990 and 2001. The average rate of eastward migration between 1967 and 1977 was between 52 and 72 feet, from 1977 to 1990 stabilized at approximately 49 feet, and from 1990 to 2001 jumped to 239 feet, on average.[29] The 2003 Sediment Transport Study states "migration data indicate a marked increase in the rate of migration over the past decade with the highest rates occurring since 1998."[30] These data do not suggest that the pre-existing jetties on their own are responsible for eastward migration; rather, the rate of migration *quintupled* in the immediate aftermath of the Deep Dredge project. These data demonstrate that the channel deepening and maintenance activities from 1990 are largely responsible for the eastward movement of Whitcomb Flats, and concomitant destruction of shellfish beds. The 2014 Draft SEIS fails to acknowledge these impacts or develop effective mitigation measures for them, let alone the additional destruction that would result from further deepening and maintenance.

Similarly, the 2003 Sediment Transport Study concludes that moderate and extreme storm waves have increased in height at Whitcomb Flats and "there has been a much larger increase in the height of extreme storm waves [since 1955] because of the increase in depth of the inlet throat and also the shifting of the deepest part of the channel to the south."[31] The study suggests various morphological drivers, including broad-scale morphological changes, scour, dredging, and southward migration of the channel due to the jetty placement.[32]

The 2014 Draft SEIS attempts to use the specter of these large-scale changes to mask its lack of knowledge about Whitcomb Flats morphology. The statement in the 2014 Draft SEIS that deepening the channel to 38 feet is only minor (a 5 percent increase in depth from the existing depth) and would have "limited influence on the larger morphological processes at work" until "a significant change in the southeast growth of Damon Point occurs"[33] is contradicted by the existing record. Both the 2003 Sediment Transport Study and the 2014

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[27] *See* 2014 Draft SEIS, at 4.2-20
[28] *See* 2014 Draft SEIS, at 3.2-6, 4.2-20
[29] 2003 Sediment Transport Study, at 30-32 and Figure 2-12.
[30] 2003 Sediment Transport Study, at 31.
[31] *Id.*, at 48.
[32] *Id.*, at 55.
[33] 2014 Draft SEIS, at 4.2-24.

Draft SEIS note that Damon Point remains a dynamic feature due to substantial sediment transport from the North Jetty.[3435]

In short, the 2014 Draft SEIS selectively uses data from a single baseline analysis to draw sweeping and inaccurate conclusions about the impacts of the Proposal on Whitcomb Flats. The 2003 Sediment Transport Study contains data that refute the Corps' conclusions, specifically data that demonstrate an enormous eastward movement of Whitcomb Flats after the 1990 channel dredging activities. Before proceeding with the Proposal, the Corps must fully analyze the sediment dynamics and present the resulting evidence with an unbiased eye toward avoiding, minimizing, and mitigating adverse impact to shellfish beds.

C. The Corps Previously Considered Measures to Mitigate Significant Adverse Impact to Whitcomb Yet Refuses to Acknowledge Impacts in 2014 Draft SEIS

The 1989 EIS Supplement concluded that dredging activities would not have any significant adverse impacts on existing oyster growing areas in Grays Harbor from increased wave action or from siltation.[36] Building on its 1989 conclusions, the Corps now has determined that it will not implement any mitigation measures to protect shellfish beds, and that the Proposal's effects to Whitcomb Flats geomorphology and sediment transport dynamics are minor because they only represent a small increase in dredging quantity over the existing maintenance work.[37]

Yet, consistent with data in the 2003 Sediment Transport Study, shellfish growers have experienced alarming rates of bed loss in Whitcomb Flats since 1990. Furthermore, several hundred acres of commercial shellfish bed leases have had to be cancelled with the Washington Department of Natural Resources ("DNR") due to the eastward migration of Whitcomb Flats siting and flooding formerly productive tidelands. The Corps has acknowledged and studied the eastward migration, as described *supra*. But its 2014 Draft SEIS ignores recommended mitigation measures and glosses over its own determination that the Corps' activities contributed to the loss of oyster beds in Grays Harbor.

1. Shellfish Growers and the Department of Natural Resources Have Abandoned Formerly Productive Beds Due to Siltation and Spit Migration

Under current practices an acre of oyster tideland can yield approximately 800 gallons of oysters in every two-year crop cycle, selling for $24 per gallon.[38] There are approximately 506 acres of oyster tidelands within the South Bay impact area around Whitcomb Flats.[39] Therefore, Whitcomb Flats is capable of producing $4.85 million worth of oysters per year, contributing significant employment and tax revenue to Grays Harbor County.

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[34] The Corps' 2014 Draft SEIS describes that: Damon Point did not exist before the Corps installed the jetties; Damon Point's rapid accretion required the Corps to realign portions of the former navigation channel in 1976 due to the Point's rapid encroachment into the channel; and Damon Point's eastward migration represents the most notable point of accretion at the harbor inlet. *See* 2014 Draft SEIS, at 3.2-3 – 3.2-6.

[35] The 2003 Sediment Transport Study concludes that, "The bathymetry analysis…suggest[s] that much of the erosion and accretion in the South Reach area of the inlet throat was *forced by larger scale changes in tidal hydraulics brought about by the large net accretion occurring at Damon Point*." 2003 Sediment Transport Study, at 25 (*emphasis* added).

[36] *See* 1989 EIS Supplement, at 4-20.

[37] 2014 Draft SEIS, at 2-1, 2-9 (Table ES-3)

[38] Pers. Comm. Mark Linn, Coast Seafoods, April 2, 2014.

[39] Continuing Authorities Fact Sheet, Whitcomb Flats Section 111 Study, June 12, 2009 [hereinafter "2009 Continuing Authorities Fact Sheet"] (obtained from DNR; attached as Exhibit A).

Oysters require a very particular habitat: sticky mudflats. Soon after the Corps completed its Deep Dredge project in 1991, oyster growers and DNR began to notice a startling drop in suitable oyster habitat, particularly in Whitcomb Flats. Bed managers described the appearance of gritty sand covering oyster beds, material that can smother shellfish seed and in extreme cases cover and suffocate oysters.[40] Managers also noted the increased frequency of large overtopping waves at Whitcomb Flats, which not only brought higher quantities of sediment into the Flats but also impaired growers' ability to maintain in place the gear necessary to cultivate shellfish using suspended culture.[41] Even a few inches of silt will remove a bed from commercial production. In the mid-1990s growers documented feet of new sediment build-up on formerly viable oyster beds that had been farmed for decades.[42]

By 2009, DNR and the Corps concluded that out of the 506 acres of total oyster habitat in the South Bay near Whitcomb Flats, "375 acres have been impacted by the sand moving from Whitcomb Flats."[43] In other words, between 1991 and 2009 nearly 75 percent of all oyster habitat in the South Bay had been rendered unusable or degraded.[44]

DNR owns and manages many of the Whitcomb Flat tidelands. DNR leases the tidelands to growers for shellfish cultivation. In the 1990s Growers began approaching DNR to modify or cancel those leases due to the destruction caused by the Corps' dredging and navigation projects. By 2009, DNR reported that at least eight separate oyster growing operations had to modify or abandon existing leases due to damages caused by increasing amounts of sand.[45] As a result, the state was losing between $50,000 and $57,000 annually in lease revenue due to degradation or disappearance of formerly "highly productive Class II oyster tracts" that were being "washed away or submerged by sand."[46] Because DNR leased those tidelands at $175 per acre,[47] it is estimated that by 2009 DNR had lost between 286 and 326 acres of formerly productive oyster beds in Whitcomb Flats. DNR still holds numerous leases in the South Bay near Whitcomb Flats, but those active beds are completely surrounded by abandoned beds, indicating that the DNR's remaining leases in Whitcomb Flats remain in peril of being lost.[48]

Shellfish growers have suffered even higher impacts as a result of extensive damage to their privately-owned beds (as well as to the beds they lease from DNR). One prominent grower in Grays Harbor has lost 46 acres near Grass Creek in the Central Bay that he estimates costs the company $441,600 annually in revenue.[49] That same grower operates approximately 150

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[40] Letter, Washington Department of Natural Resources to US Army Corps of Engineers, March 12, 2009, at 2 [hereinafter "March 12, 2009 DNR-Corps Letter"] (discussing recent meetings between DNR, the Corps, and Grays Harbor oyster growers) (attached as Exhibit B).

[41] March 12, 2009 DNR-Corps Letter, at 2. Suspended culture growers noted that increased wave action resulted in rapid deterioration of the ropes holding the oysters in a suspended state in the water.

[42] *See* DVD entitled "Westport, South Bay, Whitcomb Flats, mid to late 1990s" at 12:37 (attached as Exhibit C).

[43] 2009 Continuing Authorities Fact Sheet, at 2.

[44] A map produced with DNR data and attached as Exhibit D to this Comment Letter shows the potential extent of the impaired beds as of 2009, a polygon which encompasses nearly the entire geography of Whitcomb Flats.

[45] March 12, 2009 DNR-Corps Letter, at 2.

[46] Letter, Washington Department of Natural Resources to US Army Corps of Engineers, September 6, 2006, at 4 [hereinafter "Sept. 6, 2006 DNR-Corps Letter"] (attached as Exhibit E).

[47] March 12, 2009 DNR-Corps Letter, at 2.

[48] *See* map prepared by Confluence Environmental Co., produced from GIS data obtained from DNR and attached as Exhibit F.

[49] Pers. Comm. Mark Linn, Coast Seafoods, April 2, 2014.

acres in the South Bay in and around Whitcomb Flats and has stated that sediment movement into the Flats threatens all the company's owned and leased acreage in the South Bay.[50] In other words, continued expansion of the Corps' navigation channel likely will cost this grower an additional $1.4 million annually.

A separate grower recently informed DNR that his company will lose a 51-acre lease near Ocosta because his company believes, "it is to *[sic]* high of a risk to replant."[51] His family has grown oysters on this lease since 1978 and generated $250,000-$350,000 annually, but due to the eastward migration of Whitcomb Flats the company determined that the farm would become unviable.

The Corps has known of these impacts since at least 2001, when DNR contacted the Corps to discuss bed loss, and it has documented these impacts and determined that its own past activities have contributed to smothering oyster beds in Whitcomb Flats. To move forward with the Proposal, which will exacerbate these damages without mitigation, is not only inconsistent with the Corps' obligations under NEPA and the CWA, it is irresponsible.

2. The Corps Recognized Federal Interest in Mitigating Impacts to Whitcomb Flats But Has Failed to Address Solutions in its Draft SEIS

The Corps' 2014 Draft SEIS discussed the Corps' Section 111 study into adverse impacts because "oyster cultivation lands in South Bay have been lost due to migration and erosion of Whitcomb Flats."[52] Section 111 authorizes the Corps to "investigate, study, plan, and implement structural and nonstructural measures for the prevention or mitigation of shore damages attributable to Federal navigation works" and to cost-share with a local entity.[53] In 2001 DNR requested that the Corps initiate the study. In 2009, after several years of delay, the Corps determined that there was a federal interest in a Section 111 study because the Corps' activities in and around the inlet throat caused the bed loss at Whitcomb Flats. The project was shelved only because DNR could not secure adequate state funding to satisfy the cost-sharing provision of Section 111.[54]

The fact that DNR lacks funds to participate in a cost-share agreement, however, does not excuse the Corps from developing mitigation measures for erosion and migration of Whitcomb Flats under its NEPA and CWA obligations. The Corps' regional staff determined that the Corps should investigate and possibly implement projects aimed at mitigating the damage caused by Corps activities. The Corps has a responsibility under NEPA and the CWA to analyze and develop mitigation measures for the Proposal's impacts, which include migration of Whitcomb Flats and resulting loss of shellfish beds.[55]

For the Corps to claim that it does not foresee adverse impacts to Whitcomb Flats morphology or sediment transport dynamics due to its proposed project is naïve at best and misleading at worst. As part of the Section 111 study, DNR and the Corps developed a Continuing Authorities Fact Sheet in 2009. The Fact Sheet suggests seven potential mitigation strategies to minimize eastward migration of the Flats and alleviate impacts to

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[50] *Id.*
[51] Pers. Comm. David Hollingsworth, Markham Oysters, April 3, 2014.
[52] 2014 Draft SEIS, at 6-130
[53] 33 U.S.C.A. §426i(a).
[54] 2014 Draft SEIS, at 6-130.
[55] In fact, the 2003 Sediment Transport Study suggests numerous potential mitigation measures, including reducing the volume of sediment reaching Damon Point, nourishing Whitcomb Flats to reduce overtopping storm waves and swell, and ongoing monitoring of sediment movement. P. 56.

growers. Those strategies included: placing loose or bagged oyster shell to slow erosion; building up Whitcomb Flats with sand to prevent wave overtopping; placing pilings on the seaward side of Whitcomb Flats to reduce ocean storms waves from breaking of the Flats; placing of geotubes to act as a breakwater; and placing of reef balls to reduce wave energy and change sediment movement.[56]

The evidence demonstrates that the Corps inadequately studied dredging impacts in its 1982 and 1989 proposals, minimized the conclusions of the one later study investigating impacts on Whitcomb Flats, acknowledged its potential responsibility for shore damages due to migration and erosion of Whitcomb Flats, and even developed mitigation strategies to reduce the adverse impacts near the Flats. In light of these facts, the Corps cannot now claim that further dredging and maintenance activities will not adversely impact shellfish beds in Grays Harbor. To meet its obligations under NEPA and the CWA, the Corps must fully analyze the impacts of the Proposal and develop measures that will effectively mitigate its past, present, and future impacts. The Draft 2014 SEIS is inadequate because it fails to do this.

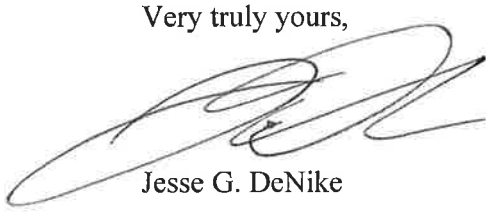
D. Conclusion and Recommendation

Shellfish growers recognize that the Port of Grays Harbor plays a key role in ensuring the long-term viability of the Grays Harbor community. The Port helps growers to expand their markets beyond Grays Harbor and provides important resources and opportunities for the larger community. As a result, growers have a long and positive relationship with the Port.

The Corps, however, must satisfy its mandate under NEPA and the CWA to analyze and develop mitigation measures for the Proposal's adverse environmental impacts. The Corps has failed to satisfy these obligations, despite extensive evidence of past and foreseeable harm to shellfish beds caused by navigation and dredging activities. Until the Corps does so, the 2014 Draft SEIS will be legally inadequate and fail to protect shellfish growers and the larger community.

Thank you for your time and attention to these comments.

Very truly yours,



Jesse G. DeNike

JGD:tat
Attachments
cc: Margaret Barrette, Executive Director, PCSGA

[56] 2009 Continuing Authorities Fact Sheet, at 2-3.

Exhibit A

TAB F

12 June 2009
Northwestern Division
Seattle District

CONTINUING AUTHORITIES PROJECT FACT SHEET

1. Project - Whitcomb Flats
   P2# - 154041
   Congressional Delegation:
   U.S. Senators: Patty Murray, Maria Cantwell
   U.S. Representatives: Norm Dicks, WA-2

2. Authority - Section 111 (or 1135)

3. Location – Westport, Grays Harbor County, Washington.

4. Problem – The Whitcomb Flats Project consists of two separate components. The first is Whitcomb Flats itself, ~~which is a small 5-acre Natural Area Preserve (NAP) managed by the Washington State Department of Natural Resources (DNR).~~ a natural area preserve established in 1981 through a Commissioner's Order.[1] Whitcomb Flats is located just to the south of the federal navigation channel and is approximately one mile across, about 5 acres in size.

The site was initially identified (1976) as important Caspian tern breeding habitat. The site is not presently used by terns for breeding, perhaps in part because of the lower elevation of the sand shoal which causes it to be covered by water at high tide.[2]

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~~The NAP provides habitat for breeding birds, including gulls and Caspian terns. Whitcomb Flats is located just to the south of the federal navigation channel.~~ The second component of the Whitcomb Flats Project is the nearshore intertidal South Bay area located about one mile southeast of Whitcomb Flats.

Bathymetric ~~analysis~~ change and aerial photograph analyses~~s~~ of the Flats from 1967 through 2002 show~~s~~ a steady and increasing migration of Whitcomb Flats to the southeast. In recent years, Whitcomb Flats has moved close enough to the South Bay ~~area~~ region that increased wave energy propagating beyond the newly subsided Flats and into the intertidal area of South Bay is eroding fine-grain sediments characteristic of the productive oyster habitat and exposing coarse-grain sand substrate as well as depositing new sand transported from Whitcomb Flats. ~~sand and~~

[1] State-owned NAPs receive the highest level of conservation protection under statutory direction in Chapter 79.70 of the Revised Code of Washington. In addition to conservation of natural features and ecosystem function, their main purposes include research and environmental education, which may include public access where consistent with conservation objectives.

[2] The Natural Areas Program manages Natural Area Preserves (NAPs) and Natural Resources Conservation Areas (NRCAs). Natural areas protect high quality examples of Washington's natural heritage. Natural area preserves within or adjacent to Grays Harbor include Whitcomb Flats NAP, Sand Island NAP, Goose Island NAP, North Bay NAP, and the Chehalis River Surge Plain NAP.

~~siltation from the Flats is being pushed by wave action onto the near shore intertidal area of South Bay which~~ This wave energy and shift in sediment bed characterization ~~in turn~~ is impacting the extensive and productive intertidal mudflats that support the harbor food web with ~~high~~ large populations of many species of benthic invertebrates.

The ~~main~~ primary cause of this sand movement is ~~storm induced~~ocean storm waves washing over the top of the Flats. Construction of the North and South Jetties for the federally authorized Grays Harbor deep draft navigation project as well as relocation of the South Reach navigation channel to the south and closer to Whitcomb Flats have been determined to be the main causes of ocean storm waves breaking over Whitcomb Flats resulting in ~~the~~ deposition of sand and erosion of silt ~~in over~~ the intertidal area of South Bay.

~~Storm induced m~~Migration of sand and siltation from the Flats has also drastically impacted productive Pacific oyster production in the South Bay area. Sediment has covered Pacific oyster beds over large areas shoreward of the Flats resulting in smothering of the oysters (up to several feet of sand covering them) and growers being forced to either shift production to much smaller marginal areas where growth rates are not as high and oyster quality is low or leave the area altogether. For example, in the South Bay impact area there are a total of 506 oyster habitat acres. Of this total, 375 acres have been impacted by the sand moving from Whitcomb Flats. Based on one grower's estimate of an estimated net income value per acre per year of $4,000, the annual impact to ~~the~~ that oyster growers is approximately $1,500,000. This number does not include oyster habitat expected to be impacted in the future without project condition. A full economic analysis of the impacts to the community has not been completed.

The goal of this project is to ~~stop or~~ substantially reduce wave energy ~~the migration of sand and siltation from~~ propagating over Whitcomb Flats into the intertidal nearshore area of South Bay to reduce the migration of sand and siltation such that the nearshore intertidal habitat area is no longer impacted.

5. Alternative Plans/Measures Considered:

a. Do Nothing.

b. Placement of loose oyster shell.

c. Placement of oyster shell in bags.

d. Build-up of Whitcomb Flats with sand sufficient to prevent ~~the most~~ ocean storm waves from breaking over Whitcomb Flats.

e. Placement of bagged oyster shells combined of build-up of Flats with sand

f. Piling placed in front of Whitcomb Flats of sufficient height to ~~stop~~ reduce ocean storm waves from ~~_____~~ breaking over the flats.

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g. Geotubes:

Geotubes are large tubes made of synthetic textiles and filled with sand. They have been used in a variety of marine construction applications, including breakwaters. They are a component of a planned pilot project for which funding has been solicited through the Estuary Habitat Restoration Council. Depending on the outcome of the pilot project, they may be included as a measure in the recommended alternative.

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h. Reef Balls:

Reef Balls are fabricated and molded structures made from sand, concrete, and crushed oyster shell that have been utilized for fish aggregation and reef development and that can also function for manipulating sedimentation and minimizing wave energy. They are also part of the planned pilot project for which funding has been solicited through the Estuary Habitat Restoration Council. Depending on the outcome of the pilot project, they may be included as a measure in the recommended alternative.

6. Description of Recommended Plan -

It is anticipated that the recommended plan will be a combination of Alternatives/Measure db andwith Alternatives/Measures eb.c, f and/or g: ~~placement of oyster shell in bags and~~ build up of Whitcomb Flats with sand, combined with a structure designed to reduce wave energy. Theis recommended alternative is expected to be the ~~least~~ least-cost, least environmentally damaging alternative that would re-create the pre-existing bird habitat as well as reduce/eliminate the impact to the ~~tideflats~~tidal flats. If the pilot project is carried out, more information will be available regarding the cost-effectivness of Alternative/Measures g & h.

7. Views of Sponsor – The sponsor of this project is the Washington State Department of Natural Resources. The sponsor fully supports this project as the sand movement is impacting the lease revenue generated from leasing the oyster beds to the commercial oyster growers. In addition, the sponsor supports restoring the function of Whitcomb Flats as nesting bird habitat.

8. Views of Federal, State, and Regional Agencies -

9. Status of Environmental Statutes Compliance -

a. National Environmental Policy Act (NEPA) 42 USC 4321 et seq. An environmental assessment of the recommended plan and alternatives will be prepared. Subsequently either a Finding of No Significant Impact (FONSI) or an environmental impact statement will be prepared.

b. Endangered Species Act 16 USC 1531 et seq. A biological evaluation will be prepared and coordinated with NOAA Fisheries and U.S. Fish & Wildlife Service.

c. Clean Water Act, Section 404. Project will need to be consistent with Section 404(b)(1) of the Clean Water Act

d. Clean Water Act, Section 401. Project will need a 401 Water Quality Certification from EPA.

e. Coastal Zone Management Act (CZM). The project will need to comply to the maximum extent practicable with the approved state coastal zone management program.

f. National Historic Preservation Act. Requires Federal agencies to identify and protect historic properties.

g. Clean Air Act. Section 176 prohibits Federal agencies from approving any action that does not conform to the approved state or federal implementation plan.

h. Environmental Justice, Executive Order 12898. Requirement to identify and address disproportionately high and adverse human helth or environmental effects on minority or low-income populations.

10. Significant Effects –

a. Environmental. In general, significant environmental effects will be beneficial. The project will significantly retard or altogether prevent significant movement of Whitcomb Flats southeast towards ~~and~~ the adjacent intertidal sandflats and mudflats (together called tideflats) ~~southeast towards the uplands.~~.

(1) Commercial oyster culture. Oyster culture at Whitcomb Flats had been highly productive for several years due to substrate type, food resources, lack of disease and excellent water quality. The project is expected to greatly help in restoring commercial oyster culture by halting excessive sand accumulations on oyster beds that has resulted in smothering and mortality of oysters over large areas of tideal flats. Given stable conditions, oyster cultivation can be restored in ~~tideflats~~ tidal flats formerly impacted by sand migration and resultant smothering. According to DNR, if nothing is done to prevent further sand movement and smothering, an area of over two square miles of ~~tideflats~~ tidal flats that could be used for commercial oyster culture would be unavailable.

(2) Migratory/breeding bird habitat. The project will help restore an important state Natural Area Preserve on Whitcomb Flats managed by DNR that once provided ~~includes~~ important habitat for breeding birds~~, including gulls and Caspian terns~~. This project will document what types of habitat functions return to the flats and which species select the area for stop-over, roosting, foraging and breeding.

(3) Productive mudflats. The project is expected to protect and preserve productive and relatively undisturbed intertidal mudflats from migrating and blow-over sand, which has covered over productive sandflat and mudflat habitat in intertidal lands immediately to the southeast of, and connected to, Whitcomb Flats. These flats are highly productive habitat for benthic infauna and epifauna, including polychaetes and nemerteans (marine worms), bivalve mollusks (softshell and hardshell clams), and various small crustaceans, which are an important food resource to shorebirds and fish. These flats also serve as habitat for juvenile Dungeness crabs and produce significant quantities of microalgae which are important food for oysters and hardshell clams.

(4) Fish habitat. The flats provide feeding and rearing habitat and movement corridors for several species of salmon, especially Chinook salmon, and various species of forage fish, including sand lance, American shad, and English sole. The project would preserve and protect this habitat.

11. Implementation Schedule -

a. Initiate Feasibility phase.....
b. Submit Initial Assessment.....
c. Submit Final Decision Documentation.....
d. Decision Document Approval.....
e. Initiate D& I phase .....
f. PPA approval by NWD or HQUSACE.....
g. Project Approval.....
h. HQUSACE Commitment & Authority to Execute PPA...
i. Execute PPA.....
j. RE Certification.....
k. Initiate Advertising.....
l. Open Bids.....
m. Construction Contract Award.....
n. Project Completion.....

12. Supplemental Information

a. Real Estate Summary – Include a concise, summary description of
   i. Real Estate interests required for project construction and O&M, and
   ii. Estimated value of LERRD, including incidental and administrative costs

b. Monitoring and O&M costs - (If not applicable, include explanation.)

c. Project Specific Legislation and/or Report Language –

d. Other –

Washington State Department of Natural Resources, 2009. Proposal to Army Corps of Engineers for an Estuary Restoration Act Grant. 30 pages.

Corps of Engineers, 2004. South Jetty Breach Fill Maintenance, Westport, Grays Harbor County, Washington, Final Supplemental Environmental Assessment.

Exhibit B

March 12, 2009

U.S. Army Corps of Engineers
Attention Christopher Behrens, Project Manager
Seattle District – CENWS – EN – PL
PO Box 3755
Seattle, WA 98124-3755

Subject: Pathway to Addressing Whitcomb Flats Migration in Grays Harbor.

Dear Mr. Behrens:

This letter is the result of a productive meeting on February 18, 2009, between members of the U.S. Army Corps of Engineer (Corps), Washington State Department of Natural Resources' (DNR) Aquatics Program, DNR Natural Areas Program, and Minterbrook Oysters (representing affected stakeholders). Its purpose is to document the approach the interested parties have agreed to take to address Whitcomb Flats mitigation measures.

The purpose of the meeting was to discuss a partnership under Section 111 of the Water Resources Development Act (WRDA) of 1968, as amended, to study and implement projects that can prevent or mitigate further damage to the Whitcomb Flats Natural Area Preserve (NAP) and/or State Owned Aquatic Lands, currently being leased for oyster production.

As presented in the meeting, it became clear that stakeholders, represented by Minterbrook Oysters, need to pursue immediate action to reduce sedimentation caused by accretion of their leasehold areas in the short term. This presented a conflict with the longer-term planning that Section 111 or other authorities discussed may require. After some internal discussion, DNR and Minterbrook Oysters agree upon a dual-pathway approach. This approach was also discussed with Chris Behrens on February 20, 2009. This letter presents the agreed upon approach, in writing, to the U.S. Corps for reference.

Nature and Severity of Problem

The Washington State Department of Natural Resources (DNR) manages both Whitcomb Flats NAP and over 2,000 acres of oyster lands in Grays Harbor, Washington. Whitcomb Flats NAP has been steadily moving eastward for 34 years, at the approximate rate of 31 meters per year. The result of this erosion is accretion: sediment from Whitcomb Flats NAP has been smothering DNR-managed oyster lands located in the immediate vicinity of the Whitcomb Flats NAP. This problem is exacerbated by increased wave energy, a trend noted by the local community and

investigated by the Southwest Washington Coastal Communities Group (Osborne, 2003)[1]. The wave impacts to Whitcomb Flats NAP are moving the spit and changing (or possibly eliminating) its terrestrial habitat values, compromising the quality of the NAP.

Current Loss of Leases

Oyster lands managed in Grays Harbor are among the most productive in Washington State. A Washington State Department of Fish and Wildlife harvest report from North and South Bay between 2001 and 2005 show that the annual average Grays Harbor oyster harvest was approximately 67,080 gallons per year, or an average of 533,590 pounds (Kauffman, 2007)[2].

The oyster growers have been working on this issue for over two decades with little, if any, success. The sediment from the island has smothered many of the leases, and changed the substrate of state-owned aquatic lands where other leases were located; several oyster growers have been forced to shift production to marginal areas, where growth rates are not as high and oyster quality is low. The migration of sediment has eliminated some of the most productive oyster beds under DNR lease, estimated at $50,000 per year in lost revenue at the rate of $175 per acre.

Healthy oyster habitat is often described as sticky mudflats. DNR has on record a minimum of eight (8) separate businesses which are currently still operating or have since shut down, and which have oyster leases that have been (or are being) modified and/or closed due to issues associated with increasing amount of sand. This increased amount of sand can smother seed, and in large amounts, cover oysters and suffocate them.

The appearance of a "fine deposit of gritty sand" (Mark Ballo, bed manager, Brady Oysters, 2/25/2009) is more recent in the south bay (of the Ocosta Channel), but extreme to the point where silt is measured in inches, perhaps even feet, in the northern portion of the channel, near Whitcomb Flats. Minterbrook Oysters manages a 132-acre oyster parcel in this area.

Erika Wikstein (Minterbrook Oysters), Mark Ballo (Brady Oysters) and Kevin Hatton (Hatton Oysters) reference the increasing number of large waves overtopping Whitcomb Flats; Mark Ballo believes these waves are moving sand down and into the Ocosta Channel, whereas Whitcomb Flats once acted as a large natural barrier to this source of sand, and instead captured it. Kevin Hatton uses a method of oyster culture called suspended culture, versus growing off the

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[1] Osborne, P. 2003. Dynamics of Whitcomb Flats, Grays Harbor. Prepared for Port of Grays Harbor in coordination with the Coastal Communities of Southwest Washington. Available from PI Engineering, Edmonds, Washington. 79 pp.

[2] Kaufman, B. 2007. Personal Communication regarding Marine Land Lease #20-075652. On file at DNR Aquatic Resources Program, Olympia, Washington. 1 p.

bottom as many other growers. Suspended involves hanging oyster from ropes. Kevin has reported that since the wave action has increased in Ocosta Channel, resulting prolonged wave motion has deteriorated his oyster ropes. The breaking of ropes, and subsequent loss of oysters, has led Hatton Oysters to evaluate the financial productivity of the land parcel, which is managed by DNR.[3]

Current Loss of Natural Area

Whitcomb Flats was once classified by DNR as a five-acre Natural Areas Preserve in Grays Harbor. One of its important features was that it provided habitat for nesting seabird colonies, including Western gulls and Caspian terns. Whitcomb Flats NAP has both migrated and decreased in size significantly. It no longer represents the quality of breeding bird habitat that it did 34 years ago. This loss of habitat, and other goods and services on the ecosystem level, has not been quantified or reviewed.

Stakeholder Approach

This was discussed during the meeting and afterwards, an immediate, short-term pilot project that required minimal permitting seemed to be the best approach for the stakeholders, given their expressed need to do something prior to any future storms which could exacerbate their problem.

Minterbrook Oysters is considering a design involving the placement of oyster seed bags as a buffer between the winter waves and any further deposition of sand. DNR would assist by ensuring that the pilot project is based upon sound and stable methods, and can provide reliable feedback on whether or not such a makeshift breakwater works.

DNR is requesting that the Corps assist in providing review of the project design, and feedback on the results. This pilot project will be developed by Minterbrook Oysters, with DNR as primary support, and – if possible – the Corps as secondary support. The general goal is to complete a design that does not extend too far beyond normal activities expected during aquaculture, thus minimizing the number of permit triggers. The primary question would be one of effectiveness, and accurate measurement of sand levels approaching the seed bags, at the seed bag site, and behind the seed bag site would be a necessity.

Longer-Term Partnership

DNR and the Corps will pursue a longer term partnership under the appropriate authority, whether the Corps determines it is Section 111 or a different authority. This partnership would take a landscape-based approach at addressing the questions of Whitcomb Flats, and will shape a

[3] Personal communication with Mark Ballo and Kevin Hatton, February 25, 2009

larger study that will move through the phases of feasibility, NEPA, construction, operation and maintenance.

Some of the questions that DNR would like to see addressed during this study include:

- What research has been completed on the migration of the Whitcomb Flats sand spit?
- Did Whitcomb Flats function as a sediment barrier prior to its migration?
- What is the sediment pathway into the Ocosta channel?
- Approximately how many cubic yards of sand has Whitcomb Flats lost and how much is left before the sand spit disappears?
- Would different methods of oyster culture be affected differently?
- How many acres of breeding bird habitat did Whitcomb Flats provide?
- What species of birds and other wildlife used Whitcomb Flats?
- What will be the overall impact of sand from both Whitcomb Flats, and any from the loss of Whitcomb Flats as a barrier to sediment, to oyster lease management in the south bay?

DNR has already begun this partnership, and wishes to remain engaged for the purpose of understanding the long-term effects of wave action and siltation on oyster leases, as well as the potential loss of a Natural Area Preserve. This information will help DNR be a more informed land manager in the long term, which is in the public's best interest.

DNR is aware that as a local sponsor, we will need to provide the Corps with access to the project area – in the form of an agreement to be developed at a later date. While DNR does not have the authority to provide the Corps with state-owned aquatic land for free, DNR has entered into research and/or restoration projects before, and is capable of providing a use authorization instrument at a later date in which the state, federal entity, and the lessees can proceed with attempting to solve the problem(s) at hand.

DNR will also assume responsibility for any operation and maintenance of the project. We are also aware of the cost-sharing requirements for planning and scoping the Feasibility Phase which will lead to a Decision Document summarizing project needs, alternatives analysis, project justification and cost estimates for implementation of a recommended plan.

At this time, DNR cannot authorize any hiring, personal services contracts, equipment purchases, out-of-state travel, and training not exempted by Engrossed Substitute Senate Bill 5460 (ESSB 5460) or the Washington State Office of Financial Management for this project. This will remain in effect through February 18, 2010. Current staff may be allocated to this project per supervisory approval.

Your consideration of this request is appreciated. Please contact Elizabeth Ellis in our Aquatic Resources Division, at PO Box 47027, Olympia, WA 98504, or by phone at (360) 902-1074, for further coordination.

Sincerely,

Rich Doenges, Division Manager
Aquatic Resources Program

Gretchen Nicholas, Division Manager
Land Management Division

cc: Zoanne Thomas, Rivers District, DNR
Bryan Larson, Rivers District, DNR
Hugo Flores, Policy Unit, DNR
Curt Pavola, Natural Areas Program Manager
George Kaminsky, SW Coastal Erosion Group, Ecology
Erika Wikstein, Minterbrook Seafoods
Mark Ballo, Brady Oysters
Kevin Hatton, Hatton Brothers Seafoods

Exhibit C


Westport, South Bay, Whitcomb Flats
Mid-to-late 1990s
memorex
Exhibit C
DVD+R
Prepared 4-7-14 for US-ACE
Comment letter on behalf of
Pacific Coast Shellfish Growers
Association
Plauché & Carr LLP

Exhibit D


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Exhibit E

WASHINGTON STATE DEPARTMENT OF
Natural Resources

DOUG SUTHERLAND
Commissioner of Public Lands

September 6, 2006

Ms. Aimee Kinney
Environmental Resources Section
U.S. Army Corps of Engineers
P.O. Box 3755
Seattle, Washington 98124-3755

RE: **PN CENWS-OD-TS-NS-25, Continued Maintenance Dredging of the Grays Harbor and Chehalis River Project, FY 2007 – 2011**

Dear Ms. Kinney:

Thank you for giving Washington State Department of Natural Resources (DNR) an opportunity to comment on the continued maintenance of the Grays Harbor and Chehalis River Navigation Channel, FY 2007 – 2011. DNR has reviewed the Environmental Assessment (EA) developed for this action under the National Environmental Policy Act (NEPA). DNR also requested from the U.S. Army Corps of Engineers (U.S. Corps), and was provided with, an extension, so that further information could be gathered prior to developing this letter. DNR appreciates the cooperation and patience shown by the U.S. Corps in this matter.

DNR Aquatic Resources and Natural Area Programs would like to submit the following joint comment letter on the continued maintenance dredging of the Grays Harbor and Chehalis River Project, FY 2007 – 2011.

Washington Department of Natural Resources State Lands

The Washington State Department of Natural Resources (DNR) manages over 5 million acres of state lands, including 3 million acres of upland trust lands, 2.4 million acres of aquatic lands, and nearly 120,000 acres of natural areas.

State owned aquatic lands include shorelands, tidelands, and beds of navigable waters throughout Washington State, including aquatic lands located within and around many harbor areas. The DNR Aquatic Resources Program (DNR Aquatics) has been directed to manage state owned aquatic lands in a manner that provides a balance of public benefits for Washington State. These public benefits include encouraging direct public use and access, fostering water-dependent uses, ensuring environmental protection, utilizing renewable resources, and generating revenue consistent with the other benefits.
The Natural Areas Program manages Natural Area Preserves (NAPs) and Natural Resources Conservation Areas (NRCAs). Natural areas protect high quality examples of Washington's natural heritage. Natural area preserves within or adjacent to Grays Harbor include Whitcomb Flats NAP,

Sand Island NAP, Goose Island NAP, North Bay NAP, and the Chehalis River Surge Plain NAP. State-owned NAPs receive the highest level of conservation protection under statutory direction in Chapter 79.70 of the Revised Code of Washington. In addition to conservation of natural features and ecosystem function, their main purposes include research and environmental education, which may include public access where consistent with conservation objectives.

Specific Comments

Encourage Increased Level of Specificity in Final Analysis Prior to Permit Issuance

Overall, DNR encourages the U.S. Corps to increase the level of analysis with regards to impacts on state-owned lands in the action area. DNR emphasizes addressing the following questions prior to (1) the final NEPA document and FNSI, and (2) issuance of the dredging permit:

1) How will U.S. Corps permitted actions impact state lands managed by the DNR within the action area?
2) How will the U.S. Corps offset impacts to DNR lands now and in the future?
3) How are natural area preserves throughout the harbor and in the lower Chehalis River impacted by the continuation of the dredging and disposal program, including cumulative impacts?
4) How is the U.S. Corps incorporating any of these impacts under their Long Term Management Strategy for the Grays Harbor-Chehalis area?

Most importantly

5) How can DNR and the U.S. Corps work collaboratively, with other interested entities, to address these questions?

Collaboratively Working with the Corps on DNR State Land Issues

With reference to section 11.3, *Whitcomb Flats* (p. 24):

The statement "*DNR later decided not to pursue the study as a local sponsor* (par. 2, line 9)" may have been correct in 2001, but DNR has not concluded this statement is correct for the current year, nor for the proposed FY 2007-2011 Maintenance Dredging and Disposal Program. Thus, DNR considers this path currently a potential option for pursuing a collaborative approach to studying impacts and solutions with the U.S. Corps. DNR requests that the U.S. Corps remove this statement and update this section to include the following components:

1) Current and past research that has been completed on the impacts to DNR land in the Whitcomb Flats area
2) Current status of U.S. Corps efforts to mitigate or otherwise offset impacts to DNR land in the Whitcomb Flats area
3) Current state of U.S. Corps and DNR's relationship to address impacts on DNR land in the Whitcomb Flats area
4) Current funding options being explored to address impacts on DNR land in the Whitcomb Flats area and the potential to address impacts to the other Grays Harbor NAPs though this mechanism

5) Next steps

DNR is interested in pursuing section 111 funding as an option. Section 111 of the 1968 River and Harbor Act under the Continuing Authorities Program (CAP) allows the U.S. Corps to provide for the prevention or mitigation of erosion damages to publicly or privately owned shores along the coastline of the United States when the damages are the result of a Federal navigation project. These funds are intended not to restore shorelines to historical dimensions, but only reduce erosion to a level that would have exists without the construction of the Federal navigation project.

Encourage Further Research into Cumulative, Continued and New Impacts

In Cumulative Impacts, section 10, par. 3, page 22, the following statement is made:

> *Though annual maintenance dredging does result in mortality and reduced habitat value for a variety of marine and estuarine species, the continuation of the Corps maintenance dredging program would not result in any new impacts to ecological function given the existing degraded condition of the navigation project area.*

DNR does not concur with this statement. This statement contrasts with recent research on the mechanisms behind the fate and transport of sediment in Grays Harbor, and specifically, the movement and erosion of Whitcomb Flats ("Dynamics of Whitcomb Flats", Osborne, 2003). Osborne has noted that the migration rate of Whitcomb Flats, as it erodes, has increased.

Incorporate Outside Research Into Analysis
In a study designed to provided baseline information on the physical processes and geomorphology needed to assess the potential impacts to Whitcomb Flats by the ongoing maintenance of the navigational channel, Osborne (2003) of Pacific International Engineering concluded that Whitcomb Flats was experiencing a steady increase in wave height over time, potentially contributing to "overtopping", a wave-induced washover process, slowly eroding away this spit.

Osborne (2003) placed this into context by stating there were a number of navigational activities that appeared to have contributed to an overall geomorphological change in Grays Harbor inlet, which in turn, led to an increase in wave energy and height. Osborne did not rule out ongoing dredging as a contributing factor, but considered dredging, scour and the overall southward migration of the channel as factors that have contributed to an increased depth of the Grays Harbor inlet throat, which in turn opens the door for higher ocean wave energy, the primary factor in overtopping at Whitcomb Flats.

Another study ("Sediment transport paths at Grays Harbor, Washington", Osborne, Davies, and Cialone, 2003) indicates the potential for sediments near the dredged channel to be distributed throughout a large portion of the harbor, including the vicinity of natural area preserves. The impact of dredging on these sites has not been analyzed or addressed.

Based on the continued loss of state land on Whitcomb Flats (not including other state land), and the link to dredging in this study, DNR would recommend revisiting the statement that "no new impacts" are occurring. DNR strongly recommends that the U.S. Corps analyze the cumulative ecological and economic impacts of all navigational activities approved under this 5-year permit on all DNR land, before making the statement that "no new impacts" are occurring (see next section). DNR may be able to provide the U.S. Corps some of the data necessary for such an analysis.

Address Economic Impacts in Analysis

A number of oyster growers within the action area have either not renewed, cancelled, or amended oyster leases on state owned aquatic lands, citing that the once highly productive Class II oyster tracts were either being washed away or submerged by sand. DNR Aquatics estimated an annual loss of approximately $57,000 in lease revenue to the state, which includes only revenue intended for the state of Washington and does not include any potential impacts to the oyster growers or local economies.

Has an economic analysis been prepared for this action that addresses the impacts to state lands, oyster growers, and local communities? If not, DNR would like an economic analysis included in this Environmental Assessment disclosing the potential impacts of all permitted activities to any revenue producing state managed lands. Suggested components of such an analysis include:

1) Potential impacts on revenue to the state
2) Potential impacts on revenue to a private business
3) Potential impacts on surrounding local economy (generally as a result of (2))

Encourage Erosion and/or Sediment Control Measures for State Lands under section 6.3

DNR notes that there is no reference to any method of erosion or sediment control for the state land in question under section 6.3: *Mitigation Measures Incorporated into the Maintenance Dredging Program.*
DNR is concerned that a permit would be issued without (1) analysis of potential impacts to DNR land and (2) mitigation for any realized or supported impacts to DNR state land. DNR suggests that the U.S. Corps consider revisiting these issues prior to concluding their action is not significant.

DNR would like to work with the U.S. Corps, Southwest Erosion Study Group (Ecology, USGS), private lessees, and Coastal Communities of Southwest Washington on trying to find the best way to offset impacts while still allowing for continued navigational activities.

Summary

As stated by the U.S. Corps, in the Draft EA, section 11.3, *Whitcomb Flats* (p. 24):

> *"Over the past decade, many prime oyster lands in South Bay have been lost due to migration and erosion of Whitcomb Spit. Shifting sands bury oyster beds and/or change*

the substrate from more productive mud to compacted sand. Exposure to higher wave energy interrupts harrowing (harvest) operations, further affecting production. Several oyster growers have been forced to shift production to marginal areas where growth rates are not as high and oyster quality is low. These morphological changes occurring at Whitcomb Flats are attributable to the installation of the North and South Jetties at the entrance to Grays Harbor. The jetties are causing a general deepening of the harbor inlet, as intended."

This statement supports that navigational activities by the Corps have caused a general deepening of the harbor inlet (as intended) thereby increasing wave energy to such proportions that adverse impacts – ecologically and economically – have been occurring on state aquatic lands. Outside research (Osborne, 2003) states that dredging is another factor contributing to increased wave energy and height. Thus, it is strongly recommended that:

1) The U.S. Corps include a complete analysis of the impacts, including cumulative impacts, to DNR managed state land within this NEPA document, including an analysis of the economic impacts of their activities on both DNR, private landowners, and surrounding communities utilizing all available research;

2) The U.S. Corps consider revisiting section 111 CAP funding options, and any other available funding options, remaining flexible with cost-share requirements;
3) The U.S. Corps would not issue a dredging permit until it has worked with DNR on how to proceed with addressing concerns in this letter on potential state aquatic land and the natural area preserves.

DNR looks forward to working collaboratively with the U.S. Corps on this issue and learning more about any other expected impacts to state lands.

Sincerely,

Rich Doenges, Division Manager
Resources Division

Kit Metlen, Division Manager DNR Aquatic
DNR Asset Management and
Protection Division

cc: Hiram Arden, Navigation Section, USACE
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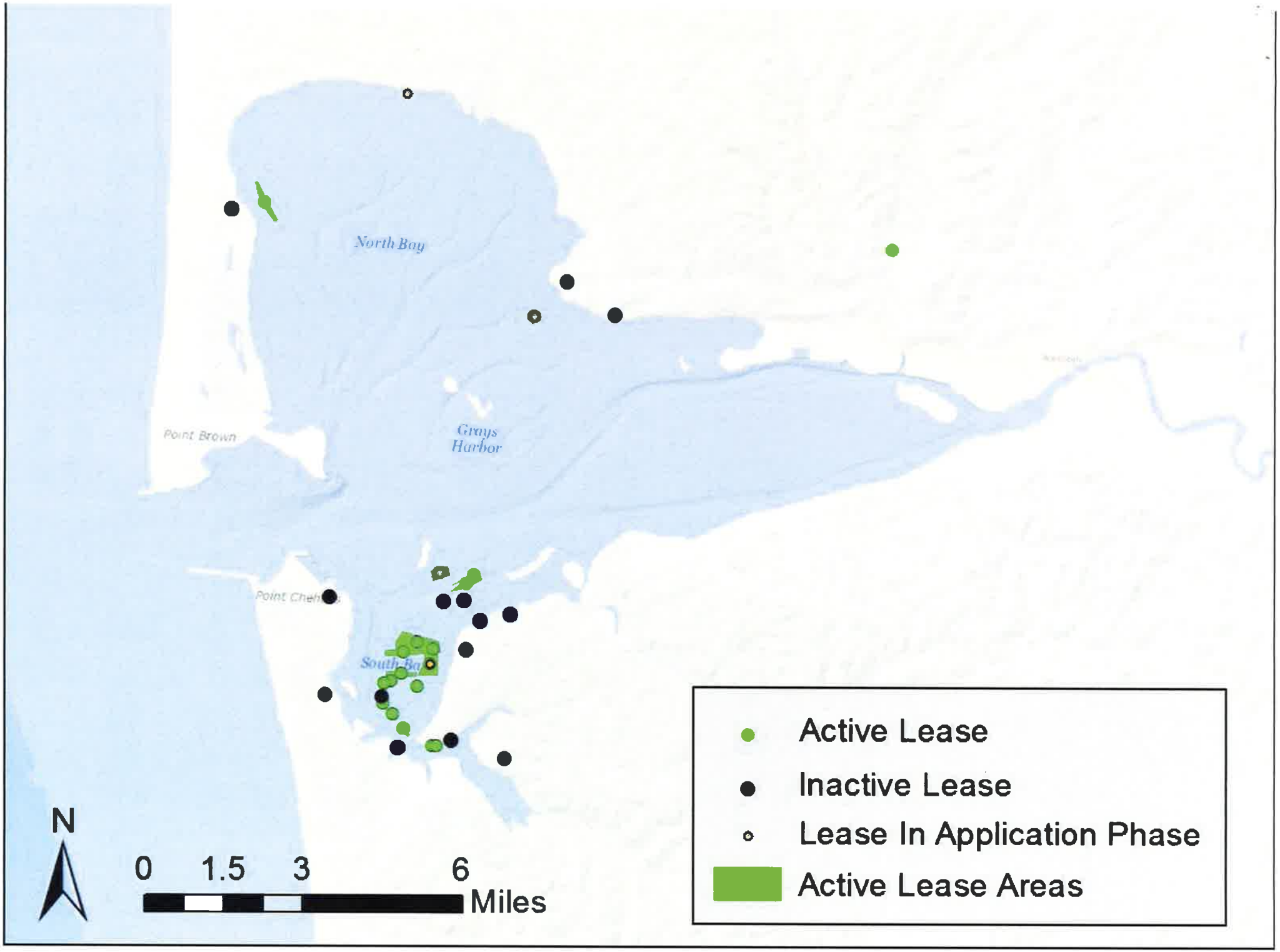
Hugo Flores, Policy Unit, DNR
Elizabeth Ellis, Policy Unit, DNR
George Kaminsky, SW Coastal Erosion Group, Ecology

Exhibit F



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